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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,191	09/26/2003	Jung-bum Suh	1293.1858	5225

21171 7590 11/03/2006

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EXAMINER

PATEL, GAUTAM

ART UNIT PAPER NUMBER

2627

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/670,191

Applicant(s)

SUH, JUNG-BUM

Examiner

Gautam R. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### Response to Remarks/Amendments

1. This is in response to amendment/remarks filed on 9/19/06.
2. claims 1-20 remain for examination.

### Drawings/Objection

3. The drawings are objected for following reasons:

The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the steps of “ monitoring tracking actuator and returning the objective lens to neutral point ” must be shown or the feature cancelled from the claim.

No new matter should be entered.

Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of following:

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment, and may be *accompanied by a marked-up copy of one or more of the figures being amended, with annotations*. Any replacement drawing sheet *must be identified in the top margin as “Replacement Sheet”* and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. *Any marked-up (annotated) copy showing changes must be labeled “Annotated Marked-up Drawings” and accompany the replacement sheet in the amendment (e.g., as an appendix).*

a proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Correction may not be held in abeyance.

NOTE: These steps are not clearly shown in the drawings at all. “ monitoring tracking actuator and returning the objective lens to neutral point

Correction are required.

**Claim Rejections - 35 U.S.C. § 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Yoshioka et al., US. patent 5,675,561 (hereafter Yoshioka).

As to claim 1, Yoshioka discloses the invention as claimed, a method of controlling tracking [see Figs. 1 & 3] including monitoring the tracking actuator and returning the objective lens, comprising the steps of:

monitoring whether the tracking actuator deviates from a dynamic range based on a signal controlling the feed motor when tracking is performed; and

returning the objective lens connected to the tracking actuator to a neutral point in response to determining that the tracking actuator deviates from the dynamic range [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

5. The aforementioned claim 2, recites the following steps, inter alia, disclosed in Yoshioka:

the returning of the objective lens is performed by turning off a tracking servo [fig. 1, switch 27] of the disc drive [figs. 3 col. 4, line 63 to col. 5, line 25].

6. The aforementioned claim 3, recites the following steps, inter alia, disclosed in Yoshioka:

the monitoring comprises comparing the signal controlling the feed motor with a predetermined reference value [fig. 1, FIRST & SECOND reference value] [figs. 1 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

7. The aforementioned claim 4, recites the following steps, inter alia, disclosed in Yoshioka:

the monitoring further comprises monitoring whether the signal controlling the feed motor is greater than the predetermined reference value for a predetermined time, when the

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signal controlling the feed motor is greater than the predetermined reference value [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

8. The aforementioned claim 5, recites the following steps, inter alia, disclosed in Yoshioka:

the predetermined reference value is set based on the dynamic range [fig. 1, range given by first reference] and a movable range [range given by second reference] of the tracking actuator [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

9. The aforementioned claim 6, recites the following steps, inter alia, disclosed in Yoshioka:

the predetermined reference value is set at a value approaching a limit of the dynamic range of the tracking actuator [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

NOTE: shock value is by definition the extreme limit.

10. As to claims 7-8, they are claims corresponding to claims 5-6 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 5-6 respectively, above.

11. The aforementioned claim 9, recites the following steps, inter alia, disclosed in Yoshioka:

an optical pickup [fig. 1, units 21, 22, 23, 24, 30 etc.] outputting a radio frequency signal from a signal picked up from a disc loaded in the disc drive when the disc drive is driven;

a radio frequency amplifier [fig. 1, unit 29] outputting a tracking error signal detected from the radio frequency signal; a servo control unit [inherently present, when servo operation is taking place] outputting a control signal for driving the tracking actuator and the feed motor based on the tracking error signal output from the radio frequency amplifier; and a control unit monitoring the control signal for driving the feed motor output from the servo control unit, and, in response to determining that the tracking actuator deviates from a dynamic range, controlling

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the servo control unit to return the objective lens connected to the tracking actuator to a reference position [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

12. The aforementioned claim 10, recites the following steps, inter alia, disclosed in Yoshioka:

the control unit controls the servo control unit to turn a tracking servo off to return the objective lens to the reference position, preventing damage [col. 3, lines 32-37] to the tracking actuator and the objective lens when an over-current flows through tracking coils due to the tracking actuator deviating from the dynamic range [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

13. As to claims 11-15, they are apparatus claims corresponding to claims 4-5, 4 & 5-6 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 4-5, 4 & 5-6 respectively, above.

14. As to claim 16, it is rejected for the similar reasons set forth in the rejection of claim 9, supra.

15. The aforementioned claim 17, recites the following steps, inter alia, disclosed in Yoshioka:

the disc is a compact disc (CD) or a digital versatile disc (DVD) [col. 1, lines 6-9].

16. The aforementioned claim 18, recites the following steps, inter alia, disclosed in Yoshioka:

a tracking actuator driver that drives the tracking actuator using the control signal output from the servo control unit to move the objective lens in a tracking or radial direction of the disc [col. 2, line 60 to col. 3, line 31].

17. The aforementioned claim 19, recites the following steps, inter alia, disclosed in Yoshioka:

an equalizer [fig. 1, units 25 & 26] receiving the control signal output from the servo control unit and outputting a low frequency band signal, the low frequency band signal representing an amount of deviation of the objective lens from a neutral point within the dynamic range [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

18. The aforementioned claim 20, recites the following steps, inter alia, disclosed in Yoshioka:

a feed motor driver [inherently present when feed motor is being driven] driving the feed motor to move the tracking actuator using the low frequency band signal output from the equalizer, a moving distance of the feed motor being a distance the tracking actuator is moved to return the objective lens to the neutral point [figs. 1 & 3 col. 2, line 60 to col. 3, line 37; & col. 4, line 63 to col. 5, line 25].

19. Applicant's arguments filed on 9/19/06 have been fully considered but they are not deemed to be persuasive for the following reasons.

In the REMARKS, the Applicant argues as follows:

A) That: “ The objection to drawings is respectfully traversed. Present paragraph 30 indicates that the control unit monitors according to the comparing illustrated at operation 402. ...Furthermore, .... Present paragraph 31 indicates that the objective lens is returned to the neutral point when the tracking servo is turned off. ” [page 6, paragraph 3; REMARKS].

The steps as CLAIMED are not illustrated in the figure 4. What else is implied by what the specification may or may not say is not relevant this point as far as figures are concerned the figure must show feature that are claimed, not what they may or may not represent. Therefore objection to drawings is maintained.

B) That; “claim 1 recites monitoring whether the tracking actuator deviates from a dynamic range. In contrast, Yoshioka does not monitor deviation fro a dynamic range. Instead,

the reference measures vertical deviation of the focal point of the light beam from the disc surface. Yoshioka, col. 4, ln. 24-25" [page 6, paragraph 4; REMARKS].

FIRST: There seems to be problem of semantics here. What the dynamic range is called is not important as long as it is doing the same thing. The "a first reference level" is same as the so called "deviation range" [col. 3, lines 1-31].

SECOND: this type of "dynamic range" is well know in the art as shown the prior art figure 1.

THIRD: without some kind of limited dynamic range the objective lens will crash in the surface and system will not work at all. In other words some type of control on the range is inherently present.

C) That; "claim 1 recites monitoring based on a signal controlling the feed motor. In contrast, Yoshioka measure the focus error and compares this value at the focus error signal comparator. There is no monitoring of the signal output to the focus error signal applied to the focus actuator 30." [page 6, paragraph 5; REMARKS].

It impossible to control the focus error without measuring that signal and also actuator has to be moved according this error for system to operate properly. Yoshioka is doing exactly what is being claimed including timing operation.

20. **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



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**Contact information**

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2600) where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.



**GAUTAM R. PATEL  
PRIMARY EXAMINER**

Gautam R. Patel  
Primary Examiner  
Group Art Unit 2627

October 27, 2006